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euCanSHare: An EU-Canada joint infrastructure for next-generation multi-Study Heart research

Description

CanSHare will develop the first centralised, secure and sustainable platform for enhanced cross-border data sharing and multi-cohort personalised medicine research in cardiology. At its heart, the platform will contain the most comprehensive cardiovascular data catalogue ever assembled, which will facilitate data discoverability and exploitation in full alignment with the FAIR principles. The project will implement the interoperability of currently fragmented yet mature IT solutions developed by the consortium members for generating a comprehensive multifunctionality platform. It will also integrate major cardiovascular data sources from Europe and Canada, including the renowned MORGAM, BiomarCaRE and CAHHM initiatives.

euCanSHare's legal framework will be built through detailed ethical and legal interoperability analysis, while investigating innovative solutions for promoting responsible Open Science based on the emerging blockchain technology. Initially populated with 35 European and Canadian cohorts (corresponding to about one million records), the platform will provide extensive functionalities, including for data deposition, data harmonisation and quality control, which will support the integration of new cohorts beyond the duration of the project, thus ensuring its scalability. Moreover, sustainability will be targeted by leveraging through our multi-disciplinary partners the most established data infrastructures, namely ELIXIR, EGA, BBMRI and euro-BioImaging in Europe, as well as Maelstrom from Canada. The unique features of the platform will be demonstrated and adjusted through several use cases, including for biomarker validation, knowledge discovery, cardiovascular risk assessment, public health research and industry-driven studies. Furthermore, intensive outreach campaigns and hands-on workshops will be organised to attract a range of stakeholders, data providers and end-users from the academic, public health and industrial sectors.

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